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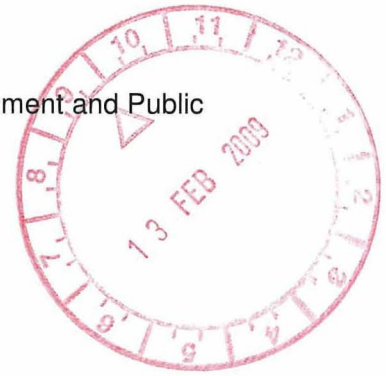

Ms Linda Omar
Committee Clerk
Standing Committee on Environment and Public Affairs
Legislative Council
Parliament House
Perth WA 6000

WSN ENVIRONMENTAL SOLUTIONS

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Dear Linda,

Please find below WSN Environmental Solutions submission to the Standing Committee on Environment and Public Affairs. Our submission focuses on points 2 & 3 Resource Recovery Technologies and Other relevant matters.

We appreciate the opportunity to be involved and we will certainly make ourselves available should the Committee require any further information. We have also submitted confidential work done by Hyder Consulting which looks at the different technologies available and their Greenhouse performances which supports Anaerobic Digestion via a three bin system combined with Green Energy generation as a superior system to address Greenhouse gas emissions.

We trust our submission assists the committee in their deliberations.

Kind regards

Richard Adams
Manager – Business Development

Submission to : The Standing Committee on Environment and Public Affairs Waste Enquiry

WSN Environmental Solutions

WSN Environmental Solutions is a NSW state owned corporation managing a large proportion of waste and recyclables within NSW through a network of transfer stations, recycling facilities, Alternate Waste Technology Facilities (AWT), landfills, composting facilities and collection services.
WSN is currently implementing a move from our existing landfill services to AWT for our Council clients to address climate change and deliver sustainable outcomes.
We appreciate the opportunity to be involved in this enquiry and provide this response in addressing " Resource Recovery Technologies " and "Other relevant matters".

To achieve sustainable waste solutions for local government WSN consider the following points as critical in delivering services which address sustainability and climate change implications through Greenhouse gas emissions.

Market Settings

The most important issue in delivering more sustainable waste and recycling practises is the price setting. Put simply better and more sustainable waste management costs more.

WSN supports the introduction of market based instruments as the key policy tool to bring about this change.

While regulating minimum standards are an essential part of the policy framework, attempting to regulate to achieve detailed outcomes is likely to lead to economic inefficiency.

Regulation can also be useful in locking in long term goals. (e.g. Phasing out the landfilling of unprocessed organic waste by say 2020, to allow long lead times for the requisite new infrastructure to be built)

WSN advocates:

- The introduction of a landfill levy similar to NSW and the UK
- Advanced deposit schemes to ensure effective collection of problem wastes such as chemicals and batteries. Existence of these wastes in the mixed waste steams make the recovery of organic waste streams problematic

- Creation of recycling credits to recognise not only the resource conservation but also the embodied energy benefits of recovering recyclables such as plastic, glass, metal and paper.

- The use of Greenhouse gas emissions to drive the best environmental benefits from managing waste.

Carbon Constraints and Opportunities

WSN views putting a cost on carbon as one key driver for change in the industry. Given the future introduction of Carbon Pollution Reduction Scheme (CPRS) the potential cost of carbon will add additional costs to disposal of material to landfill compared to processing the material though an AWT facility.

Even the best landfills have substantial carbon emissions, whereas some AWT facilities are net carbon abaters over their entire life cycle.

While the CPRS is important to better waste practice, on current estimates of carbon price, this price signal alone will not cause widespread take up of AWT.

Complimentary measures such as a waste levy are also required. This is quite reasonable from a public policy perspective, as introduction of AWT is aimed not only at reduction in carbon pollution, but also has policy aims associated with resource conservation, environmental harm and risk minimisation and management of local amenity issues.

Siting Facilities

The key to achieving the best environmental result is a balance between large scale, integrated sites with critical mass and reduced transport movements from having local sites close to the waste generation point.

Unfortunately this equation changes over time with technology changes that move the critical mass of technologies up and down and transport cost and efficiency changes.

WSN fully supports the concept of cross industry arrangements to facilitate the logistics of commodities such as organics, energy, recyclables and water off-takes.

Guaranteed supply of materials to Facilities.

The capital expenditure required to establish an AWT facility is high. As such industry expects that contracts will be of sufficient length to amortise the cost of construction of the facility. While the capacity of a contractor to take supply

risk varies from situation to situation (generally dependent on location), council cluster contracts for periods of 10 - 15 years would provide a good model to provide cost effective solutions to local government.

Whatever the length of time the councils need to be contractually obliged to deliver their waste during the period.

Specify Performance Outcomes

AWT tenders are complex public private partnerships between the councils or cluster of councils. They are expensive to bid and expensive to properly assess. The track record of successful projects in the Australian context is quite poor, although WSN has been fortunate to be involved in several very well run processes.

The best results will be delivered when councils or clusters councils specify the outcomes they require from the service and leave technology choice, construction and operating decisions to the proponents.

In setting the required outcomes obviously a range of policy objectives need to be considered including:

- Total whole of life cost to the ratepayer
- Reliability and contingency
- Waste diversion rates
- Manufacture of marketable products
- Green House Gas Emissions
- Environmental harm and risk reduction
- Resource Conservation and recovery
- Residential amenity issues (number of bins/collections) dust and odour
- Resident Acceptance and Compliance with systems and ease of use

The right outcomes mix for a particular tender will require detailed consideration of a range of local factors and may involve trade offs between competing objectives. Where there are policy tradeoffs to be made it is important that the council or cluster of councils has considered its view of the policy trade off before a tender is called

Whatever the outcomes specified it is important that these be assessed (both environmentally and economically) on a whole of life basis and over the total

system of collection and bins systems, education requirements, transport, processing, disposal and markets.

Of equal importance to outcome specification in these tender processes is the setting of bankable commercial terms in the contracts. In this respect several issues re-occur constantly in this regard:

- Change in law risk
- Waste composition risk

Many councils attempt to pass these risks to the contractor. The contractor has no ability to manage the risk nor to price it. Councils have some ability to manage and/or influence both of these factors, but more importantly have the ability to pass any costs onto the ultimate customer. Councils taking these risks would conform to good practice contracting.

The other commercial issue that often arises is that of hair trigger termination clauses. The council must have the ability to address poor performance with the ultimate sanction being termination of the contract. This does need to be balanced, however, with the fact that the contractor has normally spent a large amount of capital on a purpose built asset that would become stranded in the event of a contract termination.

Clearly a balanced risk approach is required to these contracts and WSN believes that the standard contract used by DEFRA in the UK provides a good basis for such an approach.

Links Between MSW and Industrial Waste

There are obviously scale and therefore potential cost advantages if processing plants can process MSW and Solid Industrial Waste (SIW) however, there are several issues with this proposition:

- SIW is a far less predicable in its composition than MSW and the composition is highly dependent on the source generator. Some SIW waste is highly suitable for processing with MSW and some is not.
- Mechanical Biological Technologies (MBT) of the type favoured in Australia generally are designed to process waste within a certain composition range and broadening the design to allow a wider range of waste will require other trade offs in terms of plant performance, quality of output products, environmental risks and throughput.

Because of the nature of the different processes, an insistence that MSW and SIW need to be co-processed would lead towards landfilling or mass burn incineration as process choices because these systems are less sensitive to changes in waste composition.

In metropolitan areas the market will provide a solution to SIW waste, so WSN advocates:

- Councils calling tenders that neither force nor preclude tenderers from co-processing SIW waste.

Such an approach allows the market to apply the technical tradeoffs outlined above and decide whether to co-process or not.

In regional areas the councils may have to consider SIW in their overall solution package.

Current Collection Systems

Collection systems need to be designed with the overall strategy in mind. A bin system is not a policy choice but one tool in the process of delivering the councils policy objectives.

Once the councils have set outcomes based objectives the choice of bin and collection systems needs to be considered hand in hand with the processing options.

As mentioned above, some form of standardisation of bin systems does allow more efficiency in the education process.

WSN and independent consultants would suggest that a three bin system comprising a ;

- Fully Co-mingled Recycling bin for processing via a MRF ,
- Garden Green bin composted via Tunnels or well managed Open Windrow and a
- Residual Garbage bin processed via Anaerobic AWT (delivering 'Green Energy " and additional recyclables)

will deliver exceptional diversion targets, products which achieve Australian Standards and are therefore more marketable as well as achieve the highest Greenhouse gas avoidance results.

Compost

There are two issues with compost:

- The capacity to manufacture high quality compost from mixed waste sources (MSW) has had limited success.

- Most waste is generated and processed in the cities, but the broader markets for recycled organics are in the rural areas. Transport costs provide a market barrier.

WSN is working with others to prove the value of recycled organics products to rural land application in order to better develop this market.

WSN has also favoured the production of more energy (via anaerobic digestion of residual waste, MSW) over the production of compost in it's most recent mixed waste processing facility. Although we acknowledge there will always be a need for both.

This produces a more marketable product and also has superior green house gas savings compared to composting systems for residual waste.

Types of Technologies and Products

WSN advocates the use of anaerobic digestion for MSW streams to maximise the energy output from this stream and hence deliver a superior Green House Gas Result.

Having said that composting has a role in any holistic waste treatment system and WSN has committed heavily to becoming a major player in the recycled organics market.

The introduction of the CPRS will likely see energy having a primacy in the waste recovery market. In addition to anaerobic digestion of organic rich waste streams, WSN also advocates the development of refuse derived fuel applications for high calorific residual fractions (after processing and recovery has been completed) of both MSW and SIW, either for use in existing industrial boilers or in bespoke gasification applications.

WSN does not support mass burn incineration for MSW because it is expensive and delivers an inferior green house gas result. It is also out of step with community expectations regarding resource recovery.

Managing Contamination

General gross and cross contamination of source separated schemes are a feature of all recycling collection streams.

The most effective solution to this problem would be better education. Greater standardisation of collection systems (bin lid colours etc) has some benefits in this area. Such standardisation allows television, radio and metropolitan wide newspaper advertising to be effectively used as part of the education campaigns in a way that is not possible if metropolitan areas have disparate schemes. It also helps when people move from area to area.

Use of mass media in this way would compliment often very effective local education by councils.

Enforcement activities such as bin audits and fines also have a role in cases of extreme non compliance.

From an AWT perspective the greatest contamination problem is chemical and heavy metal contamination of the mixed waste streams, making recovery of organic wastes more difficult and less effective.

WSN advocates:

- Advanced deposit schemes to ensure effective collection of problem wastes such as chemicals and batteries.

I hope these comments are useful. Thank you once again for the opportunity to be involved in this process.

Sincerely,

Richard Adams

Manager - Business Development